Component 1 Principles of Training

Principles of training: F I R S T O P

Principle	Explanation	Application
F.I.T.T	F = Frequency (how often) I = Intensity (how hard) T = Time (how long) T = Type of training	I train 3 times per week 3 sets of 8 reps of 15kg I train for 60 minutes I use circuit training
Individual Needs	Everybody is different and has different needs. It is important to match training to the requirements of the individual	Ronaldo is a professional footballer he trains 5 days per week. John plays Sunday league football and trains once per week
Reversibility	Just as football improves with training, it can decline if you stop training	Reversibility can be caused by lack of training or injury
Specificity	raining must match the requirements of the activity so that the right muscles and body systems are adapted	A sprinter should train for speed A rower should train using a rowing machine not a treadmill
Thresholds of Training	To improve fitness, you should train within your target zone. Your target zone will depend on the intensity of the activity Aerobic = 60 – 80% max HR Anaerobic = 80 – 90% max HR	Running a 10k is an aerobic activity. You should therefore train in the aerobic training zone of 60 – 80% of the max heart rate
Overtraining	Too much training can lead to injury and prevent improvement. Rest, duration of a session and the intensity are all important when training	Training everyday does not allow enough time for rest for recovery and adaptations
Progressive Overload	Progressive overload is gradually increasing the amount of training so that fitness gains occur, but without the risk pf injury	Week 1 = run for 10 mins Week 2 run for 15 mins

Thresholds of training

Aerobic training zone = 60 – 80% of max HR

Anaerobic training zone = 80 – 90% of

The Karvonen formula

Maximum Heart rate = 220 - Age

Worked example

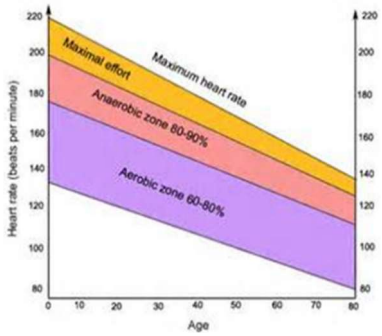
John is 16 years old

His maximum heart rate = 204 bpm

Aerobic training zone = 60 -80 %

60% = 60 x 204 ÷ 100 = 122 bpm

80% = 80 x 204 ÷ 100 = 163 bpm



Component 1 Methods of Training

Methods of Training

Continuous Training	Fartlek Training	Circuit Training	Interval Training	Plyometric Training	Weight Training
Is aerobic Has no breaks or rest (20 min or more) Sub-maximal exercise Improves cardiovascular & muscular endurance	Form of continuous training Varies in pace and terrain Aerobic & Anaerobic Improves cardiovascular & muscular endurance	Contains stations organised in a circuit they can be skill or fitness based, aerobic or anaerobic Intensity is measure by circuits, time or repetitions	High intense exercise followed by periods of rest to recover Usually anaerobic can be used in a variety of locations Improves speed but can improve strength and cardiovascular	High Intensity Short duration Breaks between sets (exercises) Involves jumping/bounding Improves power (speed & strength)	Form of interval training Involves reps and sets Weight provides the resistance Improves strength, power and muscular endurance
Advantages	**Advantages**	**Advantages**	**Advantages**	**Advantages**	**Advantages**
No equipment or facilities Has many health benefits (CHD)	No equipment or facilities Change of pace can be more interesting	Variety of stations generates interest Can be skill or fitness Can easily be adapted	Can be used to improve health and fitness (aerobic & anaerobic) No equipment needed	Develops power quickly No equipment	Can target specific areas of the body Easily adapted for different fitness'
Disadvantages	**Disadvantages**	**Disadvantages**	**Disadvantages**	**Disadvantages**	**Disadvantages**
Boring No change of pace Can cause impact injuries	High intensity can be avoided A safe route may be hard to find	Equipment can be costly Can be time consuming to set up	Can be repetitive and boring Need to plan and keep track of sets	Can cause injury due to high intensity	Can cause injury with poor technique A spotter needed with free weights
Sports	**Sports**	**Sports**	**Sports**	**Sports**	**Sports**
Marathon running cycling swimming	Fotball Rugby Netball	Can be adapted to suit all sports	Usually for speed It can be adapted to other sports	Basketball Long jump Hurdles	Weight lifting rugby shot-put
					

Aerobics

- Involves continuous activity between 30 – 60 minutes, includes step and aqua aerobics
- Improves Cardiovascular fitness

Body Pump

- Moderate to high intensity, lots of reps & uses barbells
- Improves strength & muscular endurance

Pilates

- Exercises done on a mat, uses resistance and focuses on core strength
- Improves flexibility, balance & strength

Yoga

- Exercise done on a mat
- including relaxation & breathing techniques
- Improves flexibility, balance & strength

Spinning

- Continuous cycling to music
- Improves muscular endurance & cardiovascular fitness